Beyond Your Backyard

COMMON LANDS

If you live in a neighborhood or condominium association, you and your community are probably responsible for managing and maintaining lands owned by your association. This open space may vary in size from a few acres surrounding a stream to several hundred acres of woodlands. It may contain facilities such as playgrounds, swimming pools, and trails. Structures such as stormwater detention ponds may also be your community's responsibility. Most likely these lands were initially funded, developed, and maintained by your association's builder or developer, and your organization took responsibility for the care of your common lands, including maintenance and liability, once your community was built.

The common lands and open spaces of today are the parklands of tomorrow. They serve as nearby places to walk your dog, hit a ball, enjoy the woods, play a game of tennis, or go for a run. When you steward these resources in an environmentally friendly and fiscally responsible manner, they will reward you and your neighbors.

WHAT ARE YOUR RESOURCES AND HOW DO THEY FARE?

Start your evaluation by inventorying your common land's resources and its trouble spots. Your woodlands are a resource. Can their diversity be enhanced to provide food and housing for more creatures? Are invasive plants creeping in? Your streams are a resource. Are their banks eroding? Do they flood? How frequently and what gets wet when they flood? What is the condition of your playground, your pool, your tennis court? The process to assess your community's resources is very similar to the process you use to assess your own land. Follow the process outlined in the chapter on Landscaping and Gardening beginning on page 19.

Develop a management plan incorporating conservation actions. Make sure that your plan recognizes your community's particular needs and the physical limitations of your common lands. If much of your common lands are in the flood plain, they are best left in their natural state. This doesn't imply you can't visit and enjoy them. Think about incorporating a walking trail, perhaps with interpretive signs and nesting boxes for birds in adjacent trees. Maybe some of the area is periodically mowed and is used for community picnics or kite flying. Work with the features of your site, and trouble spots may be turned into community assets.

Stormwater ponds present another challenge. These ponds are designed to hold water following storms, slowly releasing the water into a stream or drainageway. A knowledgeable person should regularly inspect stormwater ponds to ensure they remain structurally sound. These structures must be maintained as they were designed. Changing their shape, or planting trees on their banks if they have none, may appeal aesthetically but will reduce their usefulness as stormwater storage ponds. It is especially important to keep the dams free of trees and shrubs. An innovative use of wet or dry ponds is to incorporate wetland plants into their design. Stormwater wetlands provide a rich habitat for wildlife and remove pollutants as a water quality benefit.

MAINTAINING COMMON LANDS

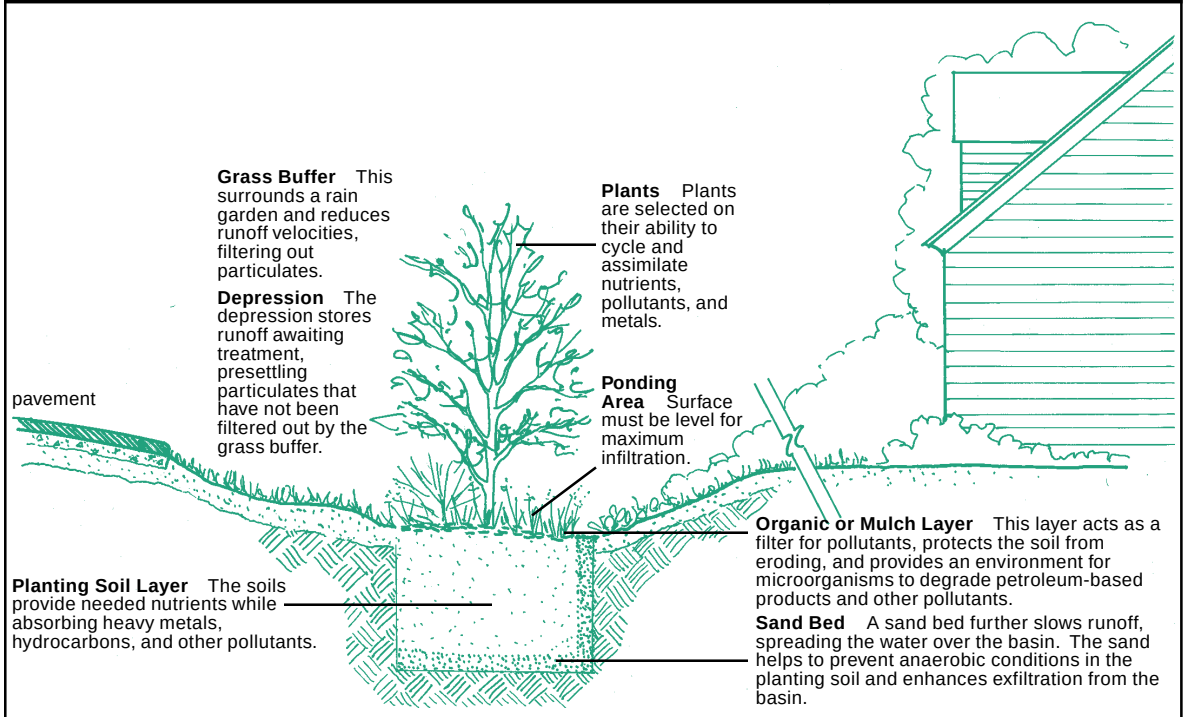
Regular maintenance is needed to keep common lands healthy and usable.

Removal of Nuisance Plants All areas should be kept free of noxious weeds or other invasive, exotic plants. For example, kudzu, english ivy, honeysuckle, and wisteria have taken over much of the undeveloped woodlands in Virginia.

Planting Plant native trees and shrubs. They are better adapted to your soil types and microclimates. Adding plants with attractive flowers or fruits can enhance the visual appeal and attract a wider variety of wildlife. Many plants are valued for stabilizing eroded soils and providing nesting areas and food sources for wildlife.

Routine Maintenance Regular maintenance activities such as mowing may be best accomplished by paid or volunteer labor. Beyond normal maintenance needs, consult a professional. Periodic cleanups, pruning, or fertilizing can be done with volunteers if knowledgeable supervision is provided. It is important to remove trash and debris from stream beds and areas commonly filled with wind-blown materials.

Rain Garden



FOR MORE INFORMATION

- Local Soil and Water Conservation District
- USDA Natural Resources Conservation Service
- Virginia Native Plant Society

RAIN GARDENS

Rain gardens is a term for a developing alternative system to curbs, gutters, and storm sewers that traditionally handle rain and stormwater. Instead of pipes and concrete, special kinds of plants, soils, and mulches are combined in low-lying areas throughout a development. The combination of plants, soil, and mulch works as a filter for the first stormwater washing off your driveway, road, and roof. As this is usually the dirtiest or most polluted water, filtering it through the plants, soil, and mulch helps to clean the runoff by removing the pollutants through the natural processes of plants, microbes, and chemical reactions in the soil.

Rain gardens are constructed in shallow basins and are surrounded by a planted buffer strip to reduce the velocity of the runoff and serve as an additional filter. The size of the garden depends on the amount of water you expect. The ponding area should be no deeper than 6 inches above the layers of sand, soil and mulch to prevent water from stagnating.

Plants selected for a Virginia rain garden must tolerate both wet and dry feet. During the summer, the rate of evapotranspiration exceeds the amount of precipitation.

FOR MORE INFORMATION

- Local Soil and Water Conservation District
- Virginia Department of Forestry

HEALTHY STREAMS AND RIPARIAN RESTORATION

Streams are a visual and natural resource. Stream valleys have been preserved in many residential neighborhoods for recreation and open space, and these areas add a great deal to the attractiveness of neighborhoods. However, in urban and suburban neighborhoods, streams are experiencing slight to severe erosion. In some cases, the entire stream valley is in danger of being greatly changed.

WHAT ARE RIPARIAN AREAS?

Plants native to stream valleys are referred to as riparian vegetation. This vegetation helps to regulate water temperatures by providing shade, maintaining a healthy environment for aquatic life. The vegetation's root systems stabilize banks and provide habitat for fish. Plant material that falls into the stream provides a much needed food source for many species of smaller aquatic animals.

Streams also provide habitat for a diversity of wildlife. Many plants, birds, mammals, amphibians, and reptiles thrive in the close proximity of water. A continuous band of vegetation along a stream provides a safe pathway for wildlife.

Nutrients and sediment entering streams from stormwater runoff and erosion can create severe problems for aquatic life. Nitrogen and phosphorus from chemical fertilizers applied to lawns, gardens, and landscape plantings often pollute runoff. Sediment carried from construction sites, freshly tilled gardens, or bare slopes muddies the water, reducing water quality and a stream's value for habitat. Riparian vegetation filters runoff from neighboring lawns and reduces the amount of nutrients and sediment that reach the stream.

Riparian landscapes are also great places for people to spend time. Fishing, canoeing, hiking, and bird watching are easily incorporated into riparian zones.

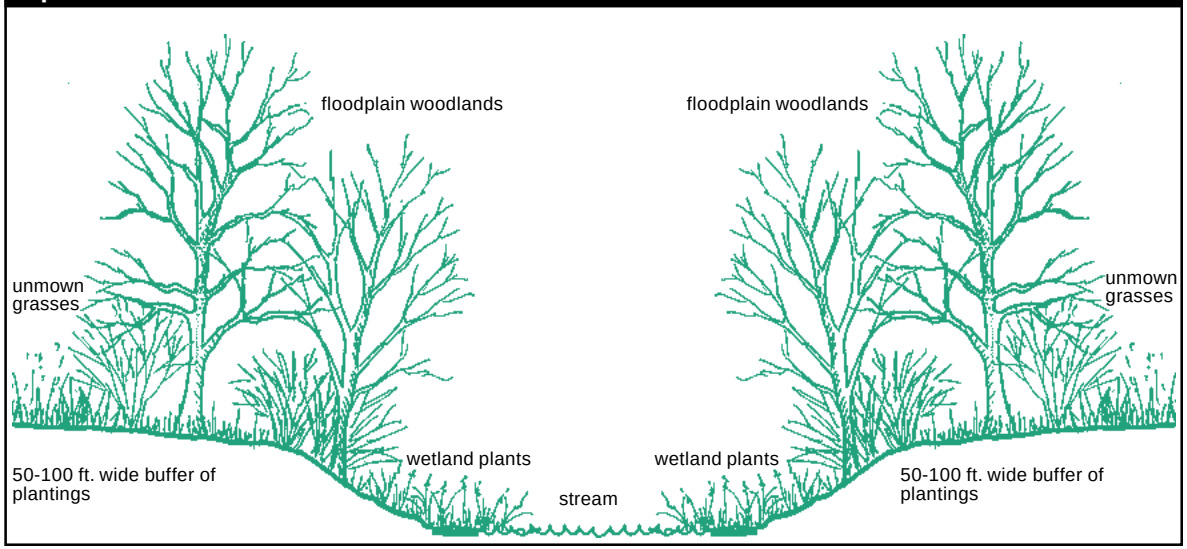
Opportunities to study in an "outdoor classroom" can be incorporated into programs at nearby schools for children of all ages.

RESTORING AND STABILIZING RIPARIAN AREAS AND STREAMS

Some streambank erosion is a natural process, as streams are a constantly changing environment. Vegetation grows, dies, and falls. Floods and sudden storms cause the stream to overflow its banks. Heavy storm flow scours the stream sides and bottom. In urban and suburban areas, erosion is exacerbated by changes in land use and growth. As your community changes and becomes developed, more rainfall flows directly into the stream at greater speeds, eroding stream bottoms and banks.

How Can You Stabilize Your Riparian

Riparian Buffer

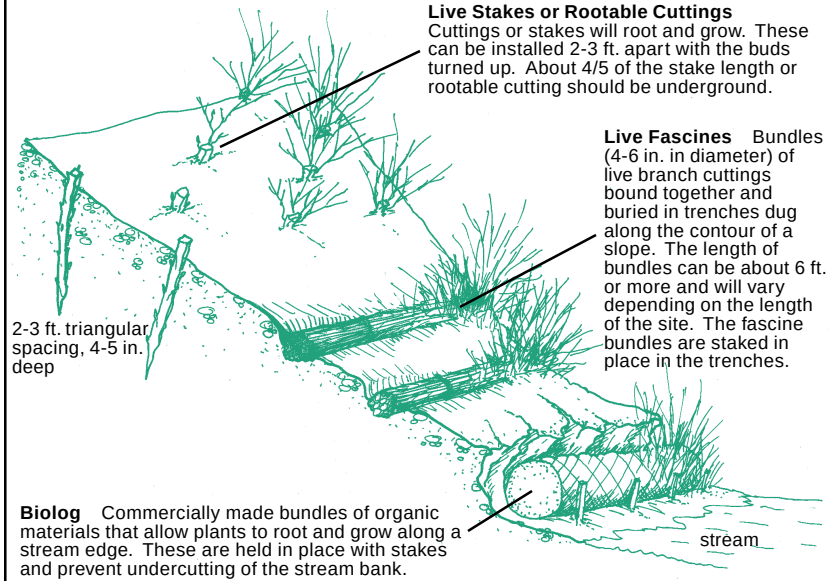


Areas and Restore Your Stream? Stop mowing and cutting vegetation down within 30 feet of your stream. Vegetation helps to hold the bank in place and slow the flow of water into the stream. Anything homeowners can do to reduce runoff from their own properties will help, too. If your yard is well drained, direct the water from your downspouts and paved areas to a grassy spot. The grass will slow down the water, giving time for the soil to absorb it. It may also save you some watering!

Your stream is bigger than your immediate neighborhood. Any long-term efforts must look at the needs of the entire stream valley and watershed and involve the cooperation of many groups and individuals. Stormwater can be held back in stormwater management ponds within subdivisions or shopping centers and released slowly into the stream, reducing both the quantity and velocity of the flow. Or it can be filtered by rain gardens. The stream channel can be lined with plants, erosion mats, or rocks.

Use Living Plants for Streambank Stabilization There are new techniques for bank stabilization that won't destroy the character of your stream. These approaches use a variety of materials, plants, and techniques to create a natural-looking stream that will support aquatic life. Fresh branches are rolled together into bundles and placed in trenches along the stream's slope. Staked in place, water-loving cuttings will quickly sprout roots and take hold of the bank. The roots create a living mat to hold the soil in place. The plant's leaves and stems also slow down the stream's flow across the land and provide a canopy to break the fall of the raindrops. Erosion control mats, fabrics, and blankets are often used on slopes and streambanks instead of rock or concrete. Seeds are scattered over the hand-staked mats, germinating and growing to provide habitat for wildlife and stabilizing the earth. Even the old-fashioned approach of using rock gabions and walls can be enhanced by encouraging live cuttings to root in the soil behind the stone.

Streambank Stabilization Techniques



In some situations, living plants will not be able to solve your problem. The stream may be flowing at too great a velocity for plants to have a chance to get established. Baskets of stone, referred to as gabions, or large pieces of rock, referred to as rip rap, are commonly used for streambank stabilization. These techniques will immediately stop erosion and may also slow the speed of the water, protecting downstream areas from severe erosion. Be wary of proposals to channelize your stream. It is a technique that is often proposed to move water out of an area quickly during a heavy rainstorm. While doing that well, it will also reduce a stream's habitat value and appearance and may exacerbate problems downstream. Consult a professional if your problem warrants this type of solution.

MAINTAINING A HEALTHY STREAM

Annual Cleanup Days At least once a year, host a major cleanup for your stream and its valley. Remove trash and problematic invasive plants.

Monitoring Water Quality Testing the water in your stream is a good way to note any improvements resulting from a restoration project. The general health of a stream can be determined by examining the aquatic insect species in the stream. The healthier a stream, the more diverse the

insect species. Simple chemical tests can help identify the reasons for water quality problems. This information is important in determining the sources of pollutants. Your local Soil and Water Conservation District can provide information about how to become a water quality monitor.

FOR MORE INFORMATION

- Local Soil and Water Conservation District
- Virginia Department of Forestry
- USDA Natural Resources Conservation Service

PONDS

Building and maintaining a large pond requires some commitment on your part. Beyond serving as a trigger for a sentimental memory of leisurely summer afternoons spent fishing or swimming, ponds fill many pragmatic needs. Stormwater storage, water for overwintering wildlife, water for agricultural irrigation, recreation, and home for many water loving plants and animals are all functions of ponds. Before you start digging or building, check to see what permits may be required for pond construction, and be sure that you are aware of the potential liability issues related to the community and state laws.

WHAT ARE YOUR CHOICES?

Ponds come in two basic styles. One is made by building a dam across a stream, and the other is dug into the ground. Your choice between the two will be influenced by the shape of your land, soil type, water source, and what is downstream. If you choose to build a pond with a dam, plan to keep a permanent cover of grasses on the dam to stabilize the soils and prevent erosion. Experts recommend against planting trees on earthen dams, and your local jurisdiction may not allow it. Check with them before planting.

Your pond must be deep enough to maintain a balance between the water coming into your pond and the water leaving your pond by seepage or evaporation. Usually, a Virginia pond should be 6 to 7 feet deep with the most shallow areas of your pond at least 2 feet deep.

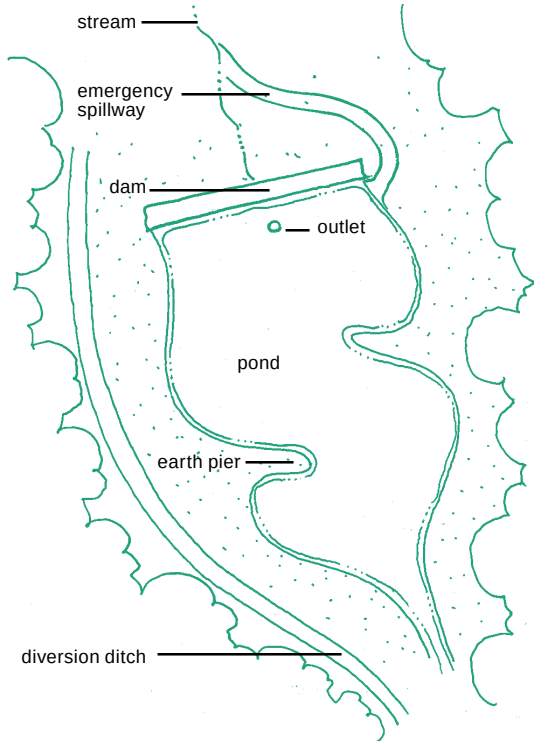
Unless the pond is to be used specifically as an agricultural "best management practice," avoid building a pond in an area where drainage from agricultural operations might pollute your pond. Too many nutrients from over-fertilized lawns, agricultural sites, or poorly managed animal waste commonly cause eutrophication in ponds, leading to a growth of algae, weeds, and other aquatic vegetation that may wipe out other aquatic organisms, including fish.

MAINTAINING A POND

Muddy Ponds Muddy ponds may be the result of erosion from lands upstream. You must solve this problem because soil particles in the water will reduce light and affect the growth of aquatic vegetation and microorganisms. To reduce the problem, maintain adequate groundcover over the areas being eroded. Fence your livestock to keep them out of the pond. Their hooves and feet will destroy grass and plants along the water's edge, further contributing to the potential for soil erosion. Bottom-dwelling fish such as carp or catfish may also contribute to the pond's muddy appearance. If suspended particles persist, powdered agricultural gypsum scattered evenly on the water's surface at a rate of 500 pounds per surface acre should clear up a pond in one to four weeks.

Dredging Even if you do everything right, the nature of a pond's life cycle is to

Ponds



fill up with sediment, becoming more marsh-like and eventually becoming a woodland. You must break the natural cycle to keep your pond a pond. Dredging can range in cost from $6 to $25 per cubic yard of spoil, depending on the price of labor at a specific location, the accessibility to the pond site, and the proximity of a site to dispose of the dredged material or spoil. Because much of the costs related to dredging are the costs of hauling the spoil away, dredging expenses can be reduced by using a backhoe to scoop out sediment from the pond's edge and letting it dry, becoming more lightweight before it is trucked away.

Stocking Stock your pond with healthy fish from a reputable hatchery. Start with a mix of 100 largemouth bass and 500 bluegill (or 300/200 bluegill to redear sunfish) per acre. Stock bass in late spring to early summer and the bluegill in late summer to early fall. Having the bass present in the pond before bluegill begin to spawn is important. For angling diversity, add 50 catfish per acre if desired.

Do not dump fish into the pond! Fish must be acclimatized to your pond's water conditions. Slowly mix pond water in the containers from the hatchery, and then place the container into the pond allowing the fish to swim out on their own. A temperature difference of about five degrees and chemical differences in the water can kill the fish.

Diverting Polluted Surface Runoff Common sense will tell you to keep polluted water out of your pond. If runoff may be carrying sediments or toxic chemicals, construct a diversion ditch around your pond.

Inspection and Repair Inspect your pond on a regular basis. Fill in gullies, plant bare areas, and replace rip rap where needed. If you have a dam, examine it. Look for seepage, erosion, or other signs of weakness. Consult a professional for advice on repairs.

Aquatic Weeds/Algae Blooms Nutrient-rich waters and sunlight can bring you a bumper crop of aquatic plants. Too much of this growth will shade and choke out other aquatic life. When the vegetation dies, the fish die because the plant decomposition process uses up the available oxygen. You may choose to manually remove plants, employ biological controls, or turn to chemical methods.

Pond owners can manually remove excessive vegetation by raking out floating plants or using an aquatic weed harvester. This is time consuming and labor intensive. Covering problem areas with black plastic may also kill vegetation by preventing sunlight from reaching the plants. If you can lower the pond's water levels during the winter months, you may be able to freeze out the plants, killing growth buds and preventing regrowth in the spring. Dredging is an alternative that will reduce the weed problems by deepening the pond and reducing the light reaching the bottom of the pond.

The safest and most effective control of excessive vegetation is the use of biological controls. The downside is that it is a slow method. Israeli carp or "triploid" sterile grass carp are two fish that will eradicate the weeds. You must have a permit to purchase carp in Virginia. Permit applications are available from the Department of Game and Inland Fisheries. Stocking rates for your pond are critical. Understocking may have little impact while overstocking may deplete all the vegetation in your pond. For weed control (30 to 40 percent coverage), stock eight carp per weed-acre. For weed eradication, stock 16 carp per weed-acre. If the desired result is not achieved after the second year, add more fish at half the stocking rate. Check with the fish hatchery before stocking the carp if large mouth bass are present in the pond. The hatchery can advise you on the appropriate size of the carp to ensure the large mouth bass don't eat your new fingerlings for breakfast.

Chemical methods are often a "quick-fix" and may require professional assistance. If chemicals are used, instructions should be strictly followed. Don't treat your pond all at once or you are likely to kill all the fish with all the plants. Treat one-third of your pond at a time. A partial treatment will reduce the amount of oxygen depleted.

FOR MORE INFORMATION

- Local Soil and Water Conservation District
- Virginia Department of Game and Inland Fisheries
- USDA Natural Resources Conservation Service

MANAGING WETLANDS

Wetlands serve important functions in local ecosystems as transitions between land and aquatic environments. In the past, these areas were filled and drained to make way for new development. As the value of wetlands has been recognized, steps have been taken to protect remaining areas and to restore areas when opportunities arise. Virginia has two basic types of wetlands — tidal and nontidal. Tidal wetlands are found where daily fluctuations in water levels occur. These can be saline or freshwater and are in coastal areas or along tidal rivers. Nontidal wetlands are beyond the influence of the tides and occur along rivers, streams, ponds, or upland depressions. More than 75 percent of Virginia's one million acres of wetland are nontidal. If your community borders the Potomac River below the fall zone (where rivers change from nontidal to tidal), your land is subject to the Chesapeake Bay Preservation Act.

IDENTIFYING WETLANDS

There are many kinds of wetlands. Some appear wet as their name implies, and others are distinguishable only in certain months of the year. Common wetland types include bogs, swamps, and marshes, but other types include places within upland forests. In order to qualify as a wetland, it must have the following three characteristics.

Hydric Soils Wetlands have unique soils which have developed by the frequent inundation of water. Hydric soils can be identified by a soil scientist or by consulting the soil survey.

Water Levels Wetlands must have water on or near the surface for part or all of the year (water-soaked land).

Plants Living plants associated with wet soils should occur in and around the wetland area.

WHY DO WETLANDS MATTER?

Water Quality Wetlands provide filtration of stormwater runoff, preventing nutrients and sediments from entering streams and rivers. Wetland plants take up nutrients during their growing season and release them slowly during the fall and winter months. As runoff passes through a wetland, sediments drop out, and the speed and turbulence of the runoff is reduced.

Wildlife Wetlands provide essential habitat for many species of wildlife. Some reptiles and amphibians live in wetland areas for their entire life cycle. Migrating waterfowl use these areas for stop-over points and winter nesting grounds. Many fish including important recreational and commercial species rely on shallow water areas and wetlands.

Aesthetic Qualities Wetlands have become valued as recreational areas in many communities. They provide opportunities for observing wildlife, fishing, boating, and hunting.

MAINTAINING A HEALTHY WETLAND

The following activities should be closely monitored if a wetland is present. Many of the activities identified in the list may be regulated and a permit required to proceed.

- Removing, excavating, or dredging material of any kind
- Altering existing drainage, sedimentation, water flow, or flood retention characteristics
- Disturbing the water level by drainage, impoundment, or other means
- Dumping or discharging material of any kind into the wetland
- Filling or grading material, altering existing topography
- Adding buildings or obstructions
- Destroying or removing plant material that would alter the character of a wetland
- Significantly altering temperature and chemical or physical characteristics of water sources

REGULATIONS AND PERMITS

The federal government has established a permitting process that restricts activities that might harm or destroy wetlands. If you believe you may have a wetland on your property, find out before you make any changes.

FOR MORE INFORMATION

Federal laws protect wetlands, and four federal agencies make wetland determinations.

These agencies are:

- Corps of Engineers
- Environmental Protection Agency
- U.S. Fish and Wildlife Service
- USDA Natural Resources Conservation Service

Additional information may be gained from:

- Chesapeake Bay Local Assistance Department

MANAGING PASTURES

MAINTAINING A HEALTHY PASTURE

You can manage your pasture to provide grazing area during much of the year. You'll need to use a variety of grasses — some that grow in cooler weather and some that thrive in warmer weather.

Cool-Season Permanent Pastures

Cool-season perennial grasses and legumes do most of their growing in the spring and the fall and are the most commonly used pasture grasses in Virginia. These grasses don't need to be seeded every year. They include Kentucky bluegrass, tall fescue (fungus-free varieties), orchard grass, ladino clover, and white clover.

Summer Permanent Pastures During the hot, dry months of summer, cool-season grasses slow or stop growing and often do not provide sufficient grazing. Bermudagrass can be used to supplement grazing in summer months. Once the soil has warmed in late spring or early summer, bermudagrass will grow and rapidly produce excellent pasture. Varieties such as Tifton 44 and Midland are cold-hardy and adapted to most conditions throughout Virginia.

Cool-Season Pasture Mixtures

MIXTURE	SPECIES	SEEDING RATE	NOTES
1	Orchardgrass	3-5 lbs./acre	Under continuous grazing will become a bluegrass-white clover pasture.
	Kentucky bluegrass	10-15 lbs./acre	
	White clover	1-3 lbs./acre	
2	Tall Fescue	10-14 lbs./acre	Suitable to many sites, tolerates moderately to poorly drained soils and dry soils.
	Ladino Clover or White Clover	1-2 lbs./acre	
	Red Clover	3-4 lbs./acre	
3	Orchardgrass	8-12 lbs./acre	High-quality pasture, not drought tolerant, requires well-drained soils.
	Ladino Clover or White Clover	1-2 lbs./acre	
	Red clover	3-4 lbs./acre	

Summer Annual Pastures If your pasture conditions are extreme, an annual summer crop may need to be seeded for forage. Dwarf pearl millet can provide a rapid-growing, high-yielding, high-quality, and drought-resistant source of forage during a hot and dry summer. This crop will grow to a height of 4 feet and make strong regrowth following grazing. Frost will kill the plant, so seeding will need to be done each spring.

Winter Annual Pastures Small grains like rye can provide grazing in late fall, early winter, and early spring. Barley can also be planted for forage in fall and early winter. Annual ryegrass provides forage during these months as well. Use these crops as a supplement to your established pasture.

Weed Control Proper pasture management is the best practice for controlling weeds. Weeds lower the feed value of a pasture and compete with desirable plants for water, light, and nutrients. Horses rarely graze evenly throughout a pasture; instead they pick and choose. This habit results in a pasture with grasses maturing at different times. Once a grass matures, its appeal is reduced. Also, pasture weeds will bloom at different times, making control of them difficult. Additional weed seeds will fall to the ground, and the cycle will be repeated. To combat this problem, regularly clip your pasture at a height of at least 3 to 4 inches and drag, once in spring, and again in late summer. You may need to adjust your clipping schedule based on weather and grazing patterns. If chemicals are needed, selective broadleaf herbicides are available.

CONTROLLING GRAZING

How Much Pasture Does One Horse Need? The Natural Resources

Conservation Service recommends a minimum land area per horse of 2 1/2 acres of first-class pasture. You can lower the needed pasture acreage for grazing if you supply additional feed. However, your horse still needs room to roam and exercise. A horse enclosed in a small pasture will eat the grass down to its roots and will trample the grass into the ground. Keep your horses out of poorly drained pastures during wet periods. Their hooves leave holes in the turf that fill with water, providing a perfect place for poisonous weeds, such as water hemlock, to thrive. Fence your horses out of streams unless you have a hardened crossing. Their hooves will damage the stream bank, leading to erosion and siltation of the stream.

Foraging Schedules and Grazing Systems You can get more use of your pasture if you establish a grazing system. Divide your pasture into two to four separate pastures, and move your animals from one pasture to another once the grasses have been grazed to a height of 2 1/2 to 3 inches. This gives the grasses time to recover. You can also graze other kinds of animals who might find that a plant unfavorable to a horse is a delicacy for them. This shared pasture will allow grasses to recover and better regulate the height of grasses and clover. A watering trough constructed as a part of the fence can serve several pastures at the same time. Keep your salt blocks off the ground and away from the water trough. Entice your animal to use all parts of the pasture by separating the water and salt from the shady areas. Fence your shade trees to keep the horses from chewing the trees' bark and trampling their roots.

Don't allow pregnant mares to feed on tall fescue during their last three months of pregnancy. They may abort, have trouble foaling, or have trouble with milk production.

A paddock is an important part of an overall grazing system. The paddock is a good place to exercise your horse during bad weather or if your pasture needs to recover. The paddock should be well-drained and level. Nothing is likely to grow, so don't be disappointed if grass or trees don't survive. Because nothing is likely to grow, construct a diversion structure on the uphill side of your paddock to combat erosion (see Soil and Drainage).

MANAGING ANIMAL WASTES

If you graze animals, you have animal waste. Disposing of it improperly may contaminate your streams, pollute your well, or waste a valuable fertilizer. Your local Soil and Water Conservation District, Virginia Cooperative Extension, or the Department of Conservation and Recreation can help you develop a manure management plan. These plans, usually created for areas of 1 to 5 acres, help you balance your land's capabilities and your animals' needs.

USING MANURE

Store manure and bedding in a covered area away from the animals and from any streams or drainageways. This material makes a good fertilizer and soil conditioner for a garden or a pasture if it has been well-composted. If you are too eager and apply the material before it has fully composted, your garden or pasture is likely to grow many new weeds. The composting process breaks the parasite cycle and reduces the viability of the weed seeds. After you have mowed your pasture, spread manure on it using a chain or harrow. Reseed bare patches and thin stands of grass in the fall or spring. Never spread manure on the frozen ground, right before a rainstorm, or directly into a waterway.

MONITOR YOUR SOILS AND RUNOFF

Pet Waste

Pollution from pet waste causes water quality problems even if you don't live near a lake or stream. When it rains, the water washes the pet waste from the grass, into the streets, along the gutter, and into the storm drains. Water in a storm drain does not go to a wastewater treatment plant. It goes right into a local stream, which feeds into the Rappahannock River. Nothing is removed from the water. To prevent pet waste pollution, you must pick up after your pet. Pet waste can be bagged, flushed, composted, or buried.

Soil tests should be taken every 2 to 3 years. This will determine your needs for fertilizing and liming. A 50- to 100-foot-wide strip of trees, shrubs, and grasses should be left undisturbed between pasture areas and drainageways or streams. Plants stabilize the soil and function as filters for runoff, reducing nutrient and sediment concentrations.

FOR MORE INFORMATION

- Local Soil and Water Conservation District
- Virginia Cooperative Extension
- USDA Natural Resources Conservation Service
- Department of Conservation and Recreation
- Local jurisdictions may limit the grazing of large animals. Check regulations before stocking animals on your property.

MANAGING WATERFRONT PROPERTIES

Waterfront properties provide access to and views of a valuable resource. Good stewardship of these areas is critical for preserving the character of the stream, river, lake, or bay.

MAINTAINING A HEALTHY WATERFRONT

Development or construction activities along a waterfront affect water and habitat quality. Disturbing soils, vegetation, topography, and hydrology causes temporary and sometimes permanent changes that can reduce the value of a water body and its adjacent properties.

Removing Vegetation Destruction of vegetation, especially native vegetation, may reduce the natural cleaning processes protecting the water body. Plants along the waterfront slow and filter stormwater runoff from pollutant particles and sediment. Removing habitat may also disturb sanctuaries for wildlife. Conserve existing trees and shrubs, and save "snag" trees (dead or dying trees) for feeding birds such as woodpeckers.

Planting Planting will enhance your waterfront property. Plants may be used for soil and bank stabilization and to improve your property's appearance. Remember, there are two views — one out towards the water, and one from the water looking at the shore. Planting new trees, shrubs, wildflowers, and grasses will enhance existing scenic views and screen unattractive views.

You can encourage new types of animals and birds to visit, feed, and nest when you add carefully selected trees and shrubs to the existing planting. A list of plants that are attractive to wildlife is given in the plant table on page 68. Be careful in arranging the new plantings if you hope to encourage wildlife. Plant in groups rather than in rows. Groves of trees provide cover and a place to nest. The spaces between the groves, left unmown, provide open areas for hunting and foraging.

DISPOSING OF WASTES FROM BOATS

As more and more waterfront homeowners enjoy boating, water-skiing, swimming, and fishing in the Potomac River and its tributaries, the potential for water pollution increases. One preventable source of pollution is the overboard dumping of raw sewage from recreational boats.

It is illegal to dump any material or waste in lakes, rivers, sounds, or bays within three miles of shore. Sheltered or shallow locations near areas with a large number of boats are particularly vulnerable to raw sewage pollution. These sites are not flushed well by the current of tidal changes, and the bacteria, chemicals, and nutrients from human waste can overload the water's ability to clean. These contaminants affect fish, aquatic plants, and other animal life. No one wants to swim or boat in or eat fish from tainted water.

Where Can You Safely Dispose of Waste? Use a garbage can on your boat, and remind your guests not to throw anything, including trash, overboard. Use cleaning chemicals sparingly and carefully, and use sewage dump stations or pumpout facilities at marinas. Boat sewage can be disposed of for a nominal fee at marinas displaying a yellow placard with "Sewage Dump Station" printed in red. Your local city or county health department or the U.S. Fish and Wildlife Service can direct you to marinas with public disposal facilities.